

WHAT IS CLAIMED IS:

1 1. A headband, comprising:
2 an elastic segment sized to fit around a wearer's head; and
3 a non-elastic segment being smaller than and attached with said elastic
4 segment, said non-elastic segment sized to span a portion of said elastic segment when said
5 elastic segment is stretched, said non-elastic segment being larger than said portion of said
6 elastic segment it spans when said elastic segment is not stretched.

1 2. The headband of claim 1 further comprising a closure mechanism
2 coupled with said elastic portion.

1 3. The headband of claim 2 wherein said closure mechanism is a hook
2 and loop closure, a snap, a button, an adhesive, a pin, or combinations thereof.

1 4. The headband of claim 1 wherein said elastic segment is rectangular
2 shaped having a long and a short dimension, and said non-elastic segment is attached along a
3 set of its edges with said elastic segment, wherein said set of edges are generally parallel to
4 said short dimension.

1 5. The headband of claim 1 wherein said non-elastic segment is attached
2 with said elastic segment in such a manner that said non-elastic segment projects out from the
3 surface of the elastic portion when said headband is not sufficiently tight, thus creating a loop
4 which provides a visual indication that the headband needs re-tightening.

1 6. The headband of claim 1 wherein said non-elastic segment is formed
2 with a fold or a crease, which causes said non-elastic portion to project out from the surface
3 of the elastic portion in a pronounced fashion as the elastic segment retracts.

1 7. The headband of claim 5 wherein said non-elastic segment is sized to
2 not project out from the surface of the elastic portion when said headband is sufficiently tight
3 thus indicating an adequate level of tension corresponding with delivering a pressure in the
4 range higher than the venous pressure and lower than the capillary pressure to the forehead of
5 the wearer.

1 8. A headband, comprising:
2 an inelastic segment sized to fit around a wearer's head; and

3 an elastic segment being smaller than and attached with said inelastic segment,
4 said elastic segment sized to span a portion of said inelastic segment when said elastic
5 segment is stretched, said elastic segment being smaller than said portion of said inelastic
6 segment it spans when said elastic segment is not stretched.

1 9. The headband of claim 8 further comprising a closure mechanism
2 coupled with said elastic portion.

1 10. The headband of claim 9 wherein said closure mechanism is a hook
2 and loop closure, a snap, a button, an adhesive, a pin, or combinations thereof.

1 11. The headband of claim 8 wherein said inelastic segment is rectangular
2 shaped having a long and a short dimension, and said elastic segment is attached along a set
3 of its edges with said inelastic segment, wherein said set of edges are generally parallel to
4 said short dimension.

1 12. The headband of claim 8 wherein said elastic segment is attached with
2 said inelastic segment in such a manner that said non-elastic segment projects out from the
3 surface adjacent to a user's forehead when said headband is not sufficiently tight, thus
4 creating a loop which provides a visual indication that the headband needs re-tightening.

1 13. The headband of claim 12 wherein said non-elastic segment is sized to
2 not project out from said surface when said headband is sufficiently tight thus indicating an
3 adequate level of tension corresponding with delivering a pressure in the range higher than
4 venous pressure and lower than capillary pressure to the wearer's forehead.

1 14. A headband for holding an oximetry sensor on the forehead of a
2 patient, comprising:

3 an elastic segment sized to fit around a patient's head and over an oximetry
4 sensor located on the forehead of a patient; and

5 a non-elastic segment being smaller than and attached with said elastic
6 segment, said non-elastic segment sized to span a portion of said elastic segment when said
7 elastic segment is stretched, said non-elastic segment being larger than said portion of said
8 elastic segment it spans when said elastic segment is not stretched.

1 15. The headband of claim 14 further comprising a closure mechanism
2 coupled with said elastic portion.

1 16. The headband of claim 15 wherein said closure mechanism is a hook
2 and loop closure, a snap, a button, an adhesive, a pin, or combinations thereof.

1 17. The headband of claim 14 wherein said non-elastic segment is attached
2 with said elastic segment in such a manner that said non-elastic segment projects out from the
3 surface of the elastic portion when said headband is not sufficiently tight, thus creating a loop
4 which provides a visual indication that the headband needs re-tightening.

1 18. The headband of claim 17 wherein said non-elastic segment is sized to
2 not project out from the surface of the elastic portion when said headband is sufficiently tight
3 thus indicating an adequate level of tension corresponding with delivering a pressure in the
4 range higher than the venous pressure and lower than the capillary pressure to the oximetry
5 sensor applied to the forehead of the patient.